Notes on the Dodori-Boni Area in Kenya 2002

A. Summary

- The protected area complex that includes Kiunga Marine National Reserve, Dodori National Reserve, Boni National Forest Reserve and Lunghi Forest Reserve protects diverse habitats in a continuum between marine and terrestrial ecosystems. Strong ecological linkages exist between the hinterland and the coast.
- The Dodori-Boni element of the complex has high conservation value as an area supporting the restricted Eastern African Coastal Forest ecotype, as an elephant recovery nucleus and as a site where the critically endangered hirola antelope occurs. Other species of concern include wild dogs and cheetah.
- The National Reserve designation permits certain types of extractive use of natural resources. Before gazettement the Dodori-Boni Reserves were the home of the hunter-gatherer Boni people. Subsequently relocated, the Boni still rely on the Reserves for wild foods, medicinal plants and other resources.
- In 1980 UNESCO proposed that Kiunga-Dodori area should become a Biosphere Reserve.
- The Reserves are coming under pressure from external subsistence and commercial activities that threaten to degrade natural resources without providing benefit to the local economy.
- Effective protection requires that the current open access tenure situation be converted to one where access is regulated and commercialised. This will discourage unsustainable exploitation, capture economic benefits that otherwise would flow out of the area and raise the perceived value of the Reserve as an engine of local economic development.

B. Background Dodori-Boni, Lunghi and Kiunga

B.1 Ecosystem setting

Dodori National Reserve (DNR), Boni National Forest Reserve (BNFR), Lunghi Forest Reserve (LFR) and Kiunga Marine National Reserve (KMNR) form a complex of protected areas in north-eastern Kenya.

The four Reserves protect an exceptional assemblage of habitats in a marine-hinterland continuum: continental shelf, patch reefs, islands, lagoons, seagrass beds, mangrove forests, tidal creeks, mobile and fossil dunes, freshwater lakes and rivers, floodplain grasslands, coastal forest and semi-arid closed canopy woodland and savanna.

There are strong ecological linkages between the protected areas, with large mammals such as elephant, buffalo, lion, hyena, wild dog and others ranging between the coast and the hinterland.

B.2 Dodori National Reserve

Dodori National Reserve (DNR) was gazetted in 1976 and covers 877km². Vegetation communities span an ecotone between the Somali and Zanzibar-Inhambane phytogeographic regions; and there is an incursion of the Somali-Maasai Regional Centre of Endemism. The dominant habitat type is dense savanna and closed-canopy Somali woodland. Coastal forest habitat occurs in dispersed patches that are poorly known but very likely to contain endemic plant species.

The Mundane Range, a Pleistocene sand ridge formation rising to 100m, traverses the Reserve. This ridge blocks drainage and causes seasonal flooding of grasslands along the valley of the Dodori River, which is perennial but reduced to a few pools in the dry season. The south-western part of the Reserve includes Dodori Creek, where mangroves are extensive.

DNR was established partly to protect large breeding populations of topi and an important refugium for elephant. Buffalo, waterbuck, lesser kudu and woodland warthog (*Phacocoerus aethiopicus*, classed as a different species from the more widespread *P. africana*) also occur. Buffalo range widely between DNR and KMNR.

Aerial surveys in the 1970s found no trace of the critically endangered hirola antelope, but in recent years the species has been repeatedly sighted very close to DNR and almost certainly occurs in the western parts of the Reserve.

Dodori's mammalian predators include lion, leopard, spotted hyena, wild dog and cheetah; its avifauna is rich in raptors and notable for palaearctic migrants.

B.3 Boni National Forest Reserve

Boni Forest National Reserve lies immediately north of DNR. It supports coastal forest communities and contains important hardwood resources, e.g. *Brachylaena*

huillensis, or muhuhu, a sought-after species that has been over-exploited elsewhere.

With its palatable browse and scattered surface water, Boni historically has been an important refuge for elephants.

Large groups of wild dogs, classed as endangered, occur in the Boni forest, ranging throughout the ecosystem as far as the seashore. Hyenas similarly move as far as the shoreline, where they occasionally prey on marine turtles.

B.4 Lunghi Forest Reserve

Lunghi Forest Reserve has been designated but not gazetted. It occupies part of the area between Dodori and Boni, forming a corridor between the two. Like Boni, Lunghi supports good examples of coastal forest and valuable hardwood resources.

B.5 Cultural aspects

In recognition of the region's high conservation and cultural value, and the interdependence of environment and livelihood, UNESCO in 1980 proposed that Kiunga-Dodori should be managed as a Biosphere Reserve.

The Boni people who live around Dodori-Boni call themselves *Aweer* and speak a Cushitic language closely related to kiSomali. There are thought to be fewer than 4,000 of them. Their oral traditions suggest that they are an ancient people: they possibly migrated over 500 years ago from the Harar region, and they claim mixed Ethiopian and Greek descent.

The old Boni lifestyle was based on hunting and gathering, augmented by limited cultivation and livestock keeping. They ordered their natural resource use in Dodori-Boni through a clan-based resource tenure system, in which each generation's rights to hunting and gathering areas were inherited by descent within each of the eight principal clans.

Hunting and gathering grounds were designated and allocated to bands (extended households within a clan) such that the resource base in each hunting and gathering ground was sufficient to provide each band with the wild resources they required for most of the year, while also permitting some cultivation. In times of stress, such as at the height of the dry season, bands could adopt a more peripatetic lifestyle, roving outside their "home ranges" to exploit widely dispersed fruits and other foods¹.

The success of the system was dependent on information-sharing, co-operation and flexibility in the tenure system, which was essentially territorial but permitted transgression of boundaries and sharing of key resources such as water when environmental conditions dictated. Collective decision-making was emphasised and it remains a feature of Boni society today.

¹ Similar to the *nxloresi* system of the *Ju'hoans*i in the Kalahari Dodori-Boni, Kenya

Due to security measures and Government policy to resettle people close to development centres, the Boni came to occupy nine villages around Dodori-Boni: Kiunga-Marereni, Mararani, Mangai, Basuba, Milimani, Bara-Bodhei, Bargoni, Mhamarani and Pandanguo. Their lifestyle has changed to a more settled and agrarian one but they still rely to a significant extent on wild foods, medicinal plants and honey, fuelwood and water collected from the Reserves, and they visit cultural sites in the Reserves ².

The Boni should therefore be receptive to efforts to institute co-management of natural resources in Dodori-Boni. The move should really be viewed as a "reinstitution of co-management along more formal lines", developed in a transparent and inclusive manner. Group-based initiatives will thrive among the Boni because of their cultural preference for collaboration.

B.6 Threats to Dodori-Boni

The principal threats arise from demand for land and unsustainable use of natural resources.

Agricultural expansion is rapidly isolating the Reserves, and fuelling calls for land inside the protected area to be made available for farming. Cultivation is already going on in some parts of Dodori. Some opinion-leaders have sought to make political capital and personal gain by exploiting the land issue.

The lack of economic benefit so far derived from the Dodori-Boni by Lamu County Council, on whose behalf KWS manages the Reserves, exacerbates the perception that they make no contribution to local development but represent a disbenefit to local people, sequestering land that could otherwise be farmed and hosting wild animals that formerly could be hunted but now damage crops and property.

Lack of alternative livelihoods in the area increases dependence on agriculture. Traditional farming involves shifting slash and burn methods that are becoming less sustainable as decreasing availability of land forces use of marginal areas and decreased "fallowing" periods.

The increased security and Government efforts to improve access and services in this part of the District are contributing to further pressures by encouraging immigration and settlement around the Reserves' boundaries.

Some donor agencies, e.g. GTZ, have sponsored resettlement schemes to subdivide land around Dodori-Boni and grant titles to landless people from Central Province may change the Boni way of life. The principle of allocating a ten-acre plot to a nuclear family is inconsistent with the flexible, group-based, multiple-use land management system by which the Boni have survived in this marginal environment.

² But note more recent Economist (2009) article comments – see Appendix Dodori-Boni, Kenya

Boni are at risk of marginalisation by land speculators and they should therefore try to secure tenure to protect their position but this tendency may encourage sedentarisation and dependence on less resilient land management strategies involving intensification of rain-fed agriculture and reduced use of wild resources.

The deleterious consequences for landscape ecology of sub-division and enclosure of semi-arid savanna are evident elsewhere in Kenya.

Further challenges are posed by unsustainable use of resources inside the Reserves. The freshwater systems in Boni support a highly productive fishery, but this is undergoing unsustainable exploitation by Luo fishers from Lake Victoria.

Mining of the valuable hardwood resource base is also taking place. Illegal selective extraction, of hardwoods by businesses from outside the area is a significant problem in Boni-Lunghi and probably occurs to a lesser extent in Dodori.

The unsophisticated and commercially naïve Boni are participants in this activity, felling trees and selling them to traders from outside the area for a fraction of their real market value, e.g., traders buy large, mature lucky bean, *mbambakofi* (*Afzelia quanzensis*), trees for KSH 200 apiece.

Muhuhu (Brachylaena huillensis) is being similarly "poached", and charcoal production for local sale or export is a general threat to forests throughout the area.

Organised poaching for ivory, which in the past decimated the Dodori-Boni elephant population, is at trivial levels today. Poaching in the 1980s reduced populations of other large mammals, but populations are thought to be recovering – buffalo are encountered in herds of 100-200 animals. Security forces patrolling in Dodori-Boni continue to shoot game for ration meat.

B.7 Management history

DNR and BNFR were set aside by County Councils (Lamu and Garissa respectively) to generate benefits for local people. The move was made in response to a regional land use plan³ recommending that areas with such high biological value, marginal suitability for agriculture and potential for sustainable resource use should be designated for conservation.

Originally the Reserves were administered by a committee comprising the District Commissioner; the Chairman, the Clerk and two Councillors of the County Council; the Warden In-Charge, District; the Warden In-Charge, Reserve; the Senior Warden, Development; and any other co-opted member. For Boni, the Committee co-opted officers from Forestry Department.

The Councils proved able neither to generate economic benefits from the Reserves nor to manage them. Incursions of armed bandits from Somalia and operations by Government security forces were equally associated with rampant poaching. The

³ Murray-Watson: "Livestock, Wildlife, Land Use and Land Potential" (date not available) Dodori-Boni, Kenya

insecurity afforded the Reserves some protection from encroachment but decimated their game populations and discouraged any form of investment.

In 1990, management authority was transferred to the newly-formed para-statal Kenya Wildlife Service (KWS). The KWS Wildlife Protection Unit (WPU), patrols in the area and focuses on security. There are no accommodation facilities in the Reserve, and ranger activities are co-ordinated through the WPU in Kiunga village. The WPU patrols to deter banditry and visits settlements to check on security and other issues.

Boni National Forest Reserve is a KWS responsibility but presently not managed. It could begin to receive more management attention if KWS activities intensify in DNR. At present KWS sees control of illegal extraction of *muhuhu* from Boni as the main priority in addition to general security.

In terms of general management, the Warden-In-Charge of KMNR is the concerned officer for Dodori-Boni. With the area secured, KWS is looking forward to more substantial development of the Reserves, particularly the development of infrastructure and tourism enterprises.

In summary, the areas in the Reserve complex are all of conservation importance but at quite different stages of protection and management:

- Kiunga is gazetted, but critical concerns surround the sustainability of its fishery, which is essentially unmanaged. WWF and KWS involvement have brought it to the threshold of co-management, which offers good prospects for conservation and economic development.
- Dodori and Boni are gazetted, but hardly managed. They have hosted no WWF activity beyond preliminary research.
- Lunghi has long been designated but is yet to be gazetted, leaving its coastal forest and hardwood resources very vulnerable. It is unmanaged and has not been the subject of WWF project activity.

The situation is far from ideal but the different stages of advancement of management will permit successful co-management strategies applied in one area to be replicated in the others and ultimately integrated at the ecosystem level.

B.8 WWF's involvement

WWF's involvement began in 1996, conceptualised as an ecosystem-level approach to conservation and management of Kiunga and Dodori-Boni. The philosophy was to safeguard the area's natural heritage by promoting sustainable use of natural resources, in collaboration with Kenya Wildlife Service, Fisheries Department, Forestry Department, district officials, local communities and the private sector.

At the outset, it was believed that the Reserves were in "near-pristine" condition and that their integrity could be maintained with little investment. This expectation turned

out to be optimistic. Because of limited resources and the prevailing security situation, after a wider baseline study WWF concentrated on Kiunga.

Nevertheless, the project has made significant advances in its first two phases. It has established an operational field base and field stations in KMNR, built a firm working relationship with KWS and other partners.

Extensive data collection and sensitisation work has been done, and this has been the foundation of planning the steps towards collaborative management. The concept has been introduced at the grass-roots level in the form of village-based resource-user groups.

C. Conservation

C.1 Conservation value

Dodori-Boni protects habitats and species of special concern – coastal forests, mangroves, elephants, hirola, endangered predators and endemic plants. Very little baseline information exists on the area and the conservation issues are known in only general terms.

In terms of zoogeography, this is the last scientifically unexplored part of Kenya. The habitat is in good condition over large areas and represents a junction of the Somalian and East African flora and fauna. Many species are at the limits of their ranges and there is likely to be increased endemism as a result.

In the years before State-sponsored poaching, Somali insurgencies and droughts estimates of elephant numbers reached 30,000. These animals probably ranged through the landscape between Tsavo/Galana and the coast, and north to Somalia. Currently there are thought to be just a few hundred elephants in the Boni-Dodori system. Effective protection of this area would encourage their recovery.

C.2 Threats

The Reserve complex is largely intact, but subject to increasing threats. There has been an expansion of agricultural activity and settlement, which if continued may dislocate the ecological links between the Reserves.

Illegal logging, charcoal production, unsustainable fishing, poaching and wild fires caused by honey hunters and cultivators clearing land are additional problems, but of uncertain magnitude. KWS views Dodori-Boni as a priority for further development, and experience shows that once a KWS presence is established, those engaged in illegal activities will move on.

The failure of the Reserves to generate benefits for the local economy has encouraged calls for degazettement and provided a basis for divisive politicking by individuals who espouse a hostile attitude to conservation to advance their personal agendas at the expense of the community.

Development of successful co-management will refute the arguments of the anti-Reserve lobby and secure improvements in the quality of life and economic prospects of the Boni, the people who are most dependent on the Reserves and who have most to lose by their degradation.

C.3 The need for plans for the Dodori-Boni landscape

The lack of plans and development guidelines for the Reserves compromises their performance as income-earning conservation areas Management is confined to matters of security. Tourism is permitted but not promoted, and subject to no limits, regulations or zoning.

The size and boundaries of the Reserves appear arbitrary and there is no published justification for them. As part of the planning process, surveys must be undertaken to establish the distribution and importance of its ecological and biodiversity values. These surveys may provide justification for both redefinition of Dodori's and Boni's boundaries and designation of sites of special conservation interest.

Planning should take into account not only the Reserves but land use in the surrounding landscape. This should be informed by a land use potential assessment, which would permit higher potential land to be zoned for agriculture and settlement. Marginal land could be left to serve as corridors between the protected areas. Additional categories could be zoned as low-impact gathering areas and wild lands, areas of scenic beauty and historical interest.

Collection of the information for planning will have spin-off benefits. For instance, the WWF Eastern African Coastal Forests Ecoregion programme has emphasised the need for area-specific plans in priority areas such as Dodori-Boni-Lunghi. Such plans could easily be produced from information generated during the land use and reserve planning work proposed as part of this programme.

C.4 Interdependence of local livelihoods and environment

The Biosphere Reserve concept of landscape planning represents protected areas as components of landscapes in which people live and which are zoned for a variety of purposes, enabling strict protection, conservation, research and monitoring, sustainable harvesting and economic development to proceed in harmony.

The strong relationship between the people's livelihoods and the environment in Kiunga-Dodori prompted UNESCO's Man and the Biosphere programme in 1980 to propose establishment of a 60,000 ha Biosphere Reserve. No follow-up appears to have been made, but the fact of nomination indicates the potential for integrating conservation and development at the landscape level, and involving local people in planning and managing the protected areas.

C.5 High potential for ecotourism

Ecotourism is scarcely developed and not undertaken on any organized basis. Dodori-Boni has potential equal to or greater than that of Kiunga, where the financial performance of existing ventures suggests that excellent profits can be made through carefully planned and sensitively managed enterprises.

Dodori-Boni offers spectacular campsites and wildlife viewing opportunities. The best-known part of the area is the open grasslands along the Dodori Creek and the Dodori River Valley, which offer appealing scenery. Fly camps are occasionally set up in this area and there is potential to install semi-permanent camps.

It is vital that ecotourism is planned to emphasise the wilderness character of Dodori-Boni. Existing operations in the area have demonstrated the e stated their preference for a restrained approach relying on high-cost, low-impact tourism, developed under a careful plan. Local private sector operators are in accord with the principle of low-volume, high-cost tourism for this unique wilderness. The success of the approach in areas such as the Okavango Delta in Botswana confirms the desirability of this option.

The Boni people have profound ties to the landscape and an ancient culture that is extremely rich in terms of ecological lore, ethnobotany, bushcraft and survival strategies. Their traditional ornaments, utensils and instruments, manufactured from natural materials, are beautiful. Clearly, involvement of the Boni could provide a unique cultural dimension to enrich visitors' experience of the area, and add to the attractions of Dodori-Boni as a special destination, but this must be planned sensitively and done in a way that gives the Boni full discretion over the interaction.

Active integration of local people in ecotourism, generation of alternative livelihood opportunities and a flow of benefits to the local economy will reduce calls for land in the Reserves to be made available for agriculture and settlement.

Dodori-Boni is being accorded high priority by KWS in recognition of its biological values and its potential to diversify tourism in Lamu District. Ecotourism will similarly meet with support from Lamu County Council, on whose behalf KWS manages the Reserves, but which has so far seen no revenue from Dodori-Boni.

APPENDIX - ECONOMIST ARTICLE JANUARY 9TH 2009

The Kenya-Somalia border

Eastern crossing

Where paradise and purgatory meet

Jan 9th 2009

Monday

THIS is a diary of a week in paradise. Not heavenly paradise, or Eden, but a third usage of the term:

tropical paradise. Today, I am in Lamu on the north coast of Kenya. This narrow, blistering

archipelago has been on the posh end of the hippy trail since the 1970s. For centuries before that, a

mongrel mix arrived on the trade winds: Omanis, Yemenis, Persians, Indians, Malays, Comorians,

Somalis, Africans from the length of the Swahili coast, Portuguese, Germans, and British. Some

added to the rich Sufi traditions of Lamu's mosques; all played a part in fashioning an urban culture

alternately pious and decadent, which even now has no need for cars and is only incidentally

electrified.

For tourists, Lamu is what happens when "Arabian Nights" meets "The Blue Lagoon", with Africa

looming planetary and red just across the tidal channel. For the rich, it is a playground at the donkey-

shit-littered end of a circuit that starts with Gstaad. Some of the same hippies who were here in the

1970s have since come into money and returned to build palatial villas along the Shela beach, on the

ocean side of Lamu Island.

Lamu tolerates a seamy undertow of sex and drugs, with rock-hard beach boys doing some of the

delivering, as long as it stays behind closed doors. And during the Christmas season, when the

weather is hot and clear, a few of the wealthiest families in Europe congregate at Shela to swim,

snorkel, fish, and, especially, to party. Lights of the social scene, such as Prince Ernst of Hanover,

bring with them a peculiarly modern court of nobles, financiers and supermodels.



Paradise?J.M. Ledgard

My plan is different. I am interested in the proximity of purgatory to paradise. I want to head north to the Somali border and find out what the villagers—hunter-gatherer Boni people—and Kenyan border patrols in the remote Kiunga district think about the resurgence of jihadist fighters in the mangrove swamps just across the border. Might they invade Kenya? What then?

These were the same fighters, the Shabab (Youth), who formed the armed wing of the Islamic Courts Union, which in 2006 briefly ruled much of south and central Somalia, before being cut apart by United States and Ethiopian air strikes. Somalia is too dangerous now for me to do any useful reporting. Yet it is the world's worst humanitarian emergency and, I believe, one of its most pressing strategic concerns. If Somalia is allowed to fail, there will be no intervention for other failing states in Africa.

First, though, I have to get up there. A speedboat is the only way, leaving in the morning between the tides. That gives me an evening in Lamu. I meet a friend, Andrew, who has turned his back on a career in London publishing to restore and sell houses in Lamu town. After a couple of drinks we push past absent donkeys and wind through the narrow alleys to his splendid home for dinner. The best town houses have four floors, with a courtyard below and a roof garden to catch the ocean breeze.

In Andrew's study, so suspended, are piles of books, journals, and maps. We find Ras Chiamboni, the village on the Somali side of the border where jihadist fighters have been trained, on a colonial-era nautical chart. This was a time when Chiamboni was Italian. It might have been for that reason, or in reference to the phallic spit of land extending out from the village, that the British knew it as Dick's Head.

Later, when Andrew walks me back to my hotel, the town has become labyrinthine. An open sewer trickles alongside, choked here and there with dung and fetid strips of plastic. We pass men bedding down in the doorways of their homes, the better to watch the stars above and the passers-by. Other perfectly restored homes await their owners' return from Zurich or Antwerp. With such contrasts between the intimately local and the showily global, Lamu would be a fine place for a modern nativity.

Tuesday

A BLINDING dawn in paradise. I sip mango juice and take notes as the paramount chief of Lamu district, Jamal Fankupy, explains some of the challenges of his job. The chief's office is where the desperate pitch up. It is at the centre of almost every African television soap opera, even if in reality the stories are demeaning and sometimes horrific: a girl whose insides are ripped up by an illegal abortion, a case of incest, illiterate men swindled by documents they could not read, and endless land disputes.

I ask Jamal about the attentions of the United States, which has a military base an hour's speedboat ride away from Lamu town, on the African mainland. The base's overt hearts-and-minds mission may be a cover to allow a covert commando unit, Taskforce 88, easy access to speedboats and a helipad for "black ops" insertions into Somalia. Jamal politely says the Americans are good friends. He is grateful for the primary schools they build.



A few miles north in PurgatoryJ.M. Ledgard

The Lamu archipelago was the hiding place for Fazul Mohammed, a Comorian believed to be a leader of al-Qaeda in east Africa. The FBI believes Fazul was one of the operatives responsible for

the 1998 bombing of the American embassy in Nairobi, which killed 213 and wounded 5000, nearly all of them Kenyans, and many of them Muslims. It also accuses him of carrying out an attack on a hotel in Mombasa in 2002, which killed 15. He is one of the FBI's most wanted, with a \$5m bounty on his head. He slips between Somalia and Kenya on shark fishing boats or trading dhows. He may also have entered on foot through the bush. He holds several passports under different aliases. He was nearly caught in a recent raid in Malindi, further down the Kenyan coast.

Even if Fazul is caught, intelligence types in Nairobi will remain nervous about Lamu. It is impossible to track the movement of radicals into and out of Somalia. Some think a terrorist attack on the town is only a matter of time.

Jamal thinks such fears are overdone. He does not believe jihadist fighters in Somalia will cross into Kenya. "They would lose more than they could gain." Nor is he concerned about a Mumbai-style attack, aimed at killing some foreigners and scaring the rest away. "Lamu is one of the greatest centres of Muslim learning and culture in Africa," he says. "It is a Muslim town. Muslims would suffer more than anyone. They would have to think very hard about such an attack."

We turn to the day-to-day challenges of life in paradise. "The main problem is transport. Just getting access to remoter villages is hard. You're always trying to catch the tides. If you delay you get stuck." He checks the time on his mobile phone. "Speaking of which, it is time for you to go. I will walk with you to the jetty."

Jamal introduces me to Ali Mzungo, a speedboat captain. After some negotiation, Ali agrees to take me north to Kiunga district and to sleep out for a night or two on the boat while I stay ashore. He is in a hurry. "The tides," he says. I throw my bag into his Miami blue skiff and jump down. Ali hands down a box of papayas, white bread, and margarine. We'll buy fish and coconut milk in the villages.

We pound away over the tidal channel and up the dredged course between the mainland and Manda island, which elephants cross at low tide, then north along the western shore of Pate island. We rip past the shark-fishing boats, their sails billowing, then out into open waters, smacking hard into the swell.

Ali is concerned. We've waited too long. When at last we reach Kiwaiyu island, the water is sluicing out of the mangrove swamp like the last grains from a sand-timer when at last we reach Kiwaiyu Island. We need to somehow work our way through the swamp now or wait until the night for the turning of the tide. Ali jumps out and beckons me to follow. Together we push the boat through kneedeep muddy shallows towards the infested narrows of the swamp. We hop back in. Very slowly, with extreme caution, Ali edges forward down the channel and across the still sinking waters of a wide lagoon, until at last we reach an azure cut of deep water on the far side. We blur then past Kiwaiyu's dreamy "eco-lodges", pound north, and come to a halt on a white beach south of the border at Kiunga, a spot chosen partly because it is the end of mobile-phone reception in Kenya.

I wade ashore. The sun is sinking but still the sweat pours off me. Paradise is as hot as hell. What I need now is a slug of water and a hut to hang my mosquito net.

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Wednesday

A LONG night. Ali slept out on the speedboat under the stars—with the water. Just those few dehydrated hours ashore without water, the kidneys beginning to ache, the mouth parched, the single papaya with me taking on an uncommon sweetness, have been enough to concentrate my mind on the thirst that is here in paradise.

The sunrise is spectacular; it burnishes the heaped golden dunes, but the fact is that the wells around here are shallow and brackish. I would puke if I drank the water from them. So the first thing I do this morning is swim out to Ali's skiff and carry off several bottles of water. I sit on the beach sipping the water, studying the blues and greys of the ocean and the way the petrels touch the waves but always remain on the wing. Then I begin reporting.

I have been given the name of a local man as a guide. His name is Bashir. I find him at his hut on the edge of the village, with his young wife and daughter. I tell him I want to meet with elders of the hunter-gatherer Boni tribe. "You are lucky, sir. The Boni are camped on my father's land." I follow Bashir down a dazzling path under coconut trees. He walks barefoot, I am in flip-flops. The soft sand gives under my feet, pitching me about. Thorns shaped like tiny spiked depth-charges stab in under my flip-flops. When I take off my flip-flops to pull them out, the sand burns the soles of my feet.



A Boni elder J.M. Ledgard

The Boni encampment is pathetic—just a few wattle huts and other shelters made of branches and plastic. The brackish well is far away; firewood is scarce; and hunger haunts the eyes and distended bellies of the children. This is in contrast to the Boni out in the bush. Out there they were celebrated by anthropologists for their language and their culture, not the least their magical gift for honey hunting, whistling to birds to guide them to wild honey in the acacia trees. They used to hunt gazelles and other game with bow and arrow until the Kenyan government banned hunting. Now if they hunt at all, it is illegally, and far from any settlement. "They stayed in the bush for a long time," one official told me. "To take them from that habit needs a lot of work."

We sit down under the baobab tree in the centre of the encampment. The Boni are Muslim, but as is often the case with more traditional groups, the women are included in the discussion. I am interested in rumours that jihadist fighters loyal to Hassan Turki have accused the Boni on the Somali side of being *jinn* and have pushed them over the border into Kenya. Have they heard this? "No. There are only a few of us left on the other side," one the elders explains haltingly. "All I know is that we Boni are scared of all the guns in Somalia." Indeed, any mention of Somalia meets with a hushed and terrified response from the Boni. They are meant to report any Somalis crossing into Kenya through the bush. In some cases they are threatened by the bandits they come across and are told to stay quiet or be killed.

I ask them why they have abandoned honey hunting in the bush and come down to the sea, where they have no experience of fishing. "We came so that our children could go to the primary school," says one woman, "but we have no money for the school uniform so the teachers chase our children away."

For paradise, it is a wretched story. The Boni own no land. They have no jobs. They are "owned" by the local Swahili community. Occasionally, a truckload of food aid arrives from the government or from Muslim charities in Mombasa. "We need a latrine," says one elder. "Our people just go in the thorn bushes and it blows back in the dust." Can't you dig one? "We have no tools," comes the plaintive response.

Thursday

MY PLAN today is to get up to the border and get a look through binoculars at Chiamboni, the Somali village that has by now gripped my imagination. Over a cup of scalding hot masala tea in the village, with a male colobus monkey with bright blue balls making a grab for the white bread on the bench, I pore over my satellite images of Chiamboni and its surroundings, looking for a clue as to where the jihadist training camp might be, and to identify where the American submarine missile struck.

The reality of jihadist operations are in any case usually more shambolic than intelligence reports allow. One source described militant Somali jihadists who want to send suicide bombers into Britain and elsewhere as "puerile". They were, the source ventured, sexually frustrated younger sons with no prospect of marriage or property.



Shopkeeper Hussein OmarJ.M. Ledgard

A few years ago, before I went to Afghanistan to report for *The Economist*, I found this a bit thin. But the more time I spent in the field, sitting on the floors of village mosques, the more I understood that it was at least partly true. To this inchoate frustration should be added in Somalia the desperations of a failed state.

Young Somali men don't train in the jihadist camps around Chiamboni because they can't get off with a girl. They train, cleanse themselves, and absorb a new order—the only order they may ever have seen—because the jihadists pay them \$100 cash every month, in a country lacking clean water, medicine, and schools. Even so, Somalia retains the capacity to surprise. For instance, the Kenyan mobile network peters out long before Kiunga, forcing border patrols to trek south to make a phone call home, but Chiamboni has its own mobile phone coverage, with cheap calls around the world.

I wander down to the beach to talk to the fishermen. We sit under a coconut tree. "The first problem we have is fuel," says one. "Don't listen to him," says another, "we don't have an engine." Others laugh. "Engine? We don't have a boat." How do you fish? "We wade out and cast our nets and our nets have holes in them. When we catch the fish there is no one to sell to. We have no electricity, so no refrigeration. The fish rot."

The Kenyan government and several organisations, including the World Wildlife Fund, which helps the Kenya Wildlife Service overlook a marine reserve between Kiwaiyu and the border, have tried to help. That the WWF and other groups have recruited some of these illiterate fishermen into workshops is clear from the way they insert English words like "empowerment" and "sustainability" into their Swahili. They may have been given new fishing equipment several times. Some have been paid to guard turtle eggs on the beaches, earning more if their turtles successfully hatch and make it to the sea.

I turn the discussion back to Somalia. Do any Somalis pass through here on foot? "No. The border is sealed. They come in through the bush, a long way in, with guns. They used to come to kill the elephants, but now they have killed them all." I ask if they feel secure. There are jeers. Everyone is in agreement. "We need more security."

According to Kenyan officials, the fishermen and the honey hunters are the security. There are several military lorries in Kiunga village itself, with a lack of fuel and spare parts, and the sandy track connecting it with the rest of Kenya washes out in the rains. The reliance is on locals to report anything suspicious. "To me, security is communication," one official later told me. "It isn't important if you have big weapons and lorries. Information is more important than arms."

I buy boiled sweets for the children crowded outside the village's only shop. The shopkeeper, Hussein Omar (pictured), is devout, his forehead marked by a spreading wine stain where he touches the ground in daily prayer. Money doesn't work this far north in Kenya. Instead, fish and seashell traders from Somalia and Mombasa strike deals in exchange for maize meal, rice, sugar, kerosene, candles, and knives. The radio is tuned to a religious radio station out of Mombasa. The reception comes and goes. Hussein speaks of his hopes of going on the Haj. The heat is suffocating. The sweat is pouring off me again. I feel embarrassed, alien to paradise.

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Friday

I SWIM towards the setting sun. So this is an infinity pool (pictured). I dive down two, three metres. The pool has been cut deep to keep the water cool. After a few lengths I climb out and sit on the edge of a deck chair, the only guest in large villa, not quite belonging. A butler sets down a glass of fresh lime juice. He hands me a towel. Would I like anything else? Just this. A soft breeze circles the courtyard.

Is this paradise? It is order anyway, a plush order, and order is the telling part of paradise. The word itself comes from the Greek word for an enclosed park, just as the Babylonian understanding of a paradisal garden influenced the biblical understanding of Eden. In all senses paradise is living but tended, nature plus man.



Correspondent's swimming poolJ.M. Ledgard

I cannot help thinking of the honey-hunting Boni, marginalised in their encampments, too wretched to dig a latrine, a few of them with their bows and arrows perhaps chased over the Somali border by jihadist fighters with Kalashnikovs. How much water is in that swimming pool? How many bathrooms are in this place? Stop. Don't despoil the moment. Stop being Scots, be Indian. Embrace the contradictions. Quietly, I watch the sun set.

I came here by speedboat. First with Ali from the border, at high tide, chattering across the same lagoons we had edged through at low tide like skis on hard snow, then from Lamu on the Kizingoni Hotel speedboat to Kipungani, at the far end of Lamu island. I did not get close enough to see Chiamboni on the Somali side. It was a day's hike and a death wish away through the bush. My letters of introduction were not enough to satisfy the border officials and the Kenya Wildlife Service, whose armed rangers turned me back. But I could just make out the hills on the Somali side, breaking back in dry yellow waves.

There are several houses here at Kipungani. A friend from Nairobi, Les, has built them over several years with her business partner. Five have already been sold, two are up for sale, and three are still to be built. The house I am staying in is going for \$1.8m. "I wanted to build the sort of house I would like to have," says Les.

The houses are built into the dunes in such a way as to be hidden from the shore. Each is powered by a combination of solar panels and wind turbines. Electrical appliances that sap energy, such as toasters, are banned. There is apparently plenty of water in shallow wells, caught by the limestone under the dunes. Even so, I feel more comfortable in Les's simple palm thatched cottage, "HQ", atop the dunes.

Over a supper of locally caught prawns and "tropical" ice cream I ask Les what the challenges of undertaking a project like this in Kenya are. "Political stability and cash flow. Otherwise, there are only advantages." There is a question whether the global financial crisis will affect the sale of the houses, or whether there is a class of wealthy people committed to spending some of their mortal span in paradise.

The paradise equation cannot be as simple as n+m=p. How much of nature? How much of man? The houses are clearly not as "eco-friendly" as they purport, but by renting them out for large sums they could earn more for the local community than a more intrusive encampment of demonstrably greener huts. The Scottish-born film star, Ewan McGregor, was recently here with his family. When Barack Obama makes a trip "home" to Kenya during his presidency, probably to coincide with the 2010 World Cup in South Africa, the whole place may become a White House retreat: the president-elect says Lamu is one of his ideas of paradise.